

Contributors to This Issue

ROBERT J. ANDREWS, B.S.E.E., 1952, University of Washington; Bell Telephone Laboratories, 1952—. Mr. Andrews was involved with the design of switching network circuits using gas tubes and pnnp devices. For a time he supervised studies and planning of the application of No. 1 ESS for service in the Autovon and toll networks. He is now Head of the Electronic Switching Systems Engineering Department, responsible for evaluating the economics and market potential of new design proposals and establishing service and operational requirements for local central offices. Member, IEEE.

MARSHALL E. BARTON, A.B. (Mathematics), 1962, M.S. (Mathematics), 1964, Miami University; Bell Telephone Laboratories 1964—. Mr. Barton has worked on assemblers and other service programs supporting electronic switching development. Member, Pi Mu Epsilon, Mathematics Association of America.

HUGH J. BEUSCHER, B.S.E.E., 1959, University of Wisconsin; M.S.E.E., 1961, New York University; Bell Telephone Laboratories, 1959—. Mr. Beuscher was first engaged in the design of memory systems for Nike-Zeus. After this he performed circuit and logic design for No. 101 ESS. Next he worked on No. 2 ESS maintenance planning and programming. He also taught a course in electronic switching as part of a Bell Laboratories sponsored operating engineers training program. He is now working on system and logic design for No. 2 ESS. Member, IEEE, Tau Beta Pi, Eta Kappa Nu.

THOMAS E. BROWNE, B.E.E., 1959, Manhattan College; M.S.E.E., 1961, New York University; Bell Telephone Laboratories, 1959—. Mr. Browne has worked on circuit design and device characterization in the development of the No. 101 ESS. In 1965 he was appointed Supervisor of the 2A Switch Unit Group, and in 1967 he became supervisor of a group developing magnetic and semiconductor integrated circuit memories. Member, IEEE, Eta Kappa Nu.

JOHN DIGRINDAKIS, B.E.E., 1956, Brooklyn Polytechnic Institute; M.E.E., 1961, New York University; Bell Telephone Laboratories, 1955—. Mr. Digrindakis has worked on the development of trunk and service circuits for the crossbar tandem system, the No. 1 ESS, and more recently for the No. 2 ESS.

JOHN J. DRISCOLL, B.S.E.E., 1964, Clarkson College of Technology; M.S.E.E., 1966, Stevens Institute of Technology; Bell Telephone Laboratories, 1964—. He completed the graduate study program in 1967. During this period, he worked on logic design and trunk maintenance for the No. 2 ESS Autovon project. For the last two years, he has been engaged in service circuit design and maintenance programming for trunks and service circuits. Member, Eta Kappa Nu, Tau Beta Pi.

GEORGE E. FESSLER, B.E.E., 1949, University of Minnesota; Bell Telephone Laboratories, 1949—. He was first engaged in maintenance evaluation studies and formulation of system engineering maintenance requirements for electromechanical switching systems. He subsequently supervised a group responsible for system engineering service and maintenance requirements for a military ground-to-air visual communication system. At present, he heads a department responsible for systems engineering requirements and evaluation for operation, administration, and maintenance of switching systems. Member, Tau Beta Pi, Eta Kappa Nu.

LAIMONS FREIMANIS, B.S.E.E., 1951, M.S.E.E., 1952, Michigan State University; Bell Telephone Laboratories, 1952—. Since completing the communications development training program, he has been engaged in peripheral unit development for the ESS trials at Morris, Illinois. On No. 1 ESS he worked on central pulse distributor and related circuits. Since 1966 he has been associated with development of the peripheral decoder for No. 2 ESS. Member, Tau Beta Pi, Eta Kappa Nu, Sigma Pi Sigma.

NEIL M. HALLER, B.S.E.E., M.S.E.E., 1959; E.E., 1961, Massachusetts Institute of Technology; Bell Telephone Laboratories, 1961—. Mr. Haller has worked on maintenance programming and assemblers and other service programs supporting electronic switching development. He is Supervisor of the No. 2 ESS Service and Administration Program Group. Member, Tau Beta Pi, Sigma Xi, Eta Kappa Nu.

JOHN A. HERNDON, A.B., 1952, University of Chicago; M.S. (Physics), 1954 and Ph.D. (Physics), 1957, University of Tennessee; Bell Telephone Laboratories, 1958—. Mr. Herndon was first engaged in exploratory studies on data communication systems. In 1960 he began work on the equipment design of No. 101 ESS, a time-division elec-

tronic PBX. In 1964 he became head of the equipment department responsible for both No. 101 ESS and No. 2 ESS. Since April 1968, he has headed a department developing call processing programs for No. 2 ESS and is responsible for systems evaluation. Senior member, IEEE.

H. ROBERT HOFMANN, B.E.E., 1957, University of Florida; M.E.E., 1962, New York University; Bell Telephone Laboratories, 1957—. Following work on the development of the ferreed switch, Mr. Hofmann was involved in the design of the ferrod used in the No. 1 and No. 2 ESS scanners. Subsequently he worked on the design of the line switching frame and the traffic data transmitter circuit for No. 1 ESS. His latest work is the circuit design of the No. 2 ESS switching network. Member, Sigma Tau.

D. WAYNE HUFFMAN, B.S.E.E., 1959, New Mexico State University; M.S.E.E., 1961, New York University; Bell Telephone Laboratories, 1959—. Mr. Huffman worked on the No. 101 ESS and No. 2 ESS in system and program design for maintenance. He is Supervisor of the No. 2 ESS Peripheral System Maintenance and Growth Group. Member, IEEE, Eta Kappa Nu.

PETER J. KENNEDY, B.E.E., 1962, Manhattan College; M.S.E.E., 1963, Stanford University; Bell Telephone Laboratories, 1964—. Mr. Kennedy has been a member of the maintenance group for the No. 2 ESS since joining Bell Telephone Laboratories in 1964. He has been primarily responsible for the design of the maintenance monitor programs for the system. Member, Eta Kappa Nu.

CHESTER W. LONNQUIST, B.E.E., 1954, the College of the City of New York; M.S., 1959, University of New Mexico; Bell Telephone Laboratories, 1954–1968. His work at Bell Telephone Laboratories included circuit and equipment design in military switching systems and the No. 101 ESS. More recently he supervised a group responsible for the equipment design of the No. 2 ESS control complex. Since 1968 he has been working in the equipment planning group at AT&TCo. Member, IEEE, Eta Kappa Nu, Tau Beta Pi.

JOSEPH C. MANGANELLO, B.S.M.E., 1959, University of Pittsburgh; M.S.E.M., 1961, New York University; Bell Telephone Laboratories, 1959—. Mr. Manganello has been engaged in the development of the

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ERIC NUSSBAUM, B.S.E.E., 1955, M.S.E.E., 1956, Columbia University; Bell Telephone Laboratories, 1959—. Mr. Nussbaum has been engaged in various aspects of electronic switching system development, first on the No. 101 ESS and more recently on No. 2 ESS. Areas of activities have included circuit design, call and maintenance programming, and logic design. He is Head of the No. 2 ESS System Design Department. Member, Tau Beta Pi, Eta Kappa Nu, IEEE.

THOMAS M. QUINN, B.S.E.E., 1960, City College of New York; M.S.E.E., 1962, New York University; Bell Telephone Laboratories, 1960—. Mr. Quinn has been engaged in design work associated with the No. 101 ESS and No. 2 ESS control units. He supervises a group responsible for the No. 2 ESS control unit design and its associated maintenance and administrative programs. Member, Eta Kappa Nu.

PHILIP C. RICHARDS, B.E. (E.E.), 1957, Yale University; M.S.E.E., 1961, New York University; Bell Telephone Laboratories, 1957—. Initially Mr. Richards was engaged in exploratory studies of time division switching and memory design. He later was concerned with the design of interface circuits between the No. 101 ESS and various central offices. More recently he was involved in the initial design of the call processing program for No. 2 ESS. He now supervises a group responsible for designing trunks and service circuits, and programming administrative and peripheral maintenance routines for No. 2 ESS. Member, IEEE, Eta Kappa Nu.

GUY W. RICKER, B.S. (Mathematics), 1953, Wheaton College, M.S. (Mathematics), 1955, Rutgers University; Head of Mathematics Department, Lakewood, New Jersey, High School, 1956-1958; Associate Professor, Jersey City State College, 1958-1964; Bell Telephone Laboratories, 1964—. Mr. Ricker has worked on simulators for No. 2 ESS. Member, Pi Mu Epsilon, Sigma Xi, Phi Delta Kappa, Sigma Pi Sigma, Mathematical Association of America.

L. RALPH ROBERTS, B.S.E.E., 1957, University of Kentucky; M.S.E.E., 1959, New York University; Bell Telephone Laboratories,

1957—. Mr. Roberts was initially associated with the Bell System data processing (BSDP) project where he was concerned with logic circuit design. Joining the No. 101 ESS project in 1959, he was responsible for the development of basic call and special feature programs. Since 1965, Mr. Roberts has supervised a group responsible for development of call programs for No. 2 ESS. Member, Eta Kappa Nu, Tau Beta Pi.

ROBERT S. SKINNER, B.S.E.E., 1939, University of Kansas; Southwestern Bell Telephone Company, 1939-1942; Bell Telephone Laboratories, 1942—. Mr. Skinner has been engaged in the development of military radar systems, the Nike-Ajax system, and the civil emergency reporting system, as well as a variety of telephone switching systems. He supervises a group responsible for integrated circuit control equipment design for electronic switching systems. Senior member, IEEE.

MICHAEL T. SKUBIAK, B.S.M.E., 1959, University of Akron; M.S.E.M., 1963, Ohio State University; Bell Telephone Laboratories, 1959—. His early work was in the development of apparatus for No. 1 ESS, including the printed wire board connector, four-wire ferreed switch, and the distributing frames. He also supervised an equipment design group for the Unicom project and a group involved in exploratory integrated circuit techniques. He heads a department that is responsible for the physical design of both the No. 2 ESS and No. 101 ESS. Member, Sigma Tau, Phi Mu Epsilon, Sigma Xi.

A. E. SPENCER, JR., B.S.E.E., 1951, Drexel Institute of Technology; Bell Telephone Laboratories, 1951—. After assignments in designing circuits for transmission systems and a secure voice communications system, he supervised the initial design phase of the time division switch unit for No. 101 ESS. Later he supervised one of several groups responsible for planning a global military communications system. In 1962 he became Head, Data Switching Engineering Department, responsible for establishing objectives and requirements for a store-and-forward data communications system. Since 1965 he has been Director of the Local Switching Engineering Center, responsible for studies of the local switching field and for establishment of objectives and requirements for local switching systems. Member, Tau Beta Pi, Eta Kappa Nu, IEEE, American Association for the Advancement of Science.

ROBERT G. TAYLOR, S.B.E.E. and S.M.E.E., 1957, Massachusetts Institute of Technology; Bell Telephone Laboratories, 1957—. While enrolled in the cooperative course in electrical engineering at M.I.T., Mr. Taylor had work assignments at Bell Laboratories in the Station Apparatus, Outside Plant, and PCM Development Departments. After joining the Laboratories he worked in logic design on Bell System data processing, later working on Nike Zeus communications and on an exploratory study for an electronic PBX. He worked on the circuit development of the permanent magnet twistor store for the No. 101 ESS and supervised a group responsible for system evaluation of the No. 101 ESS. More recently on No. 2 ESS, he has supervised groups responsible for portions of the control complex design and for system test and evaluation. Member, Tau Beta Pi, Eta Kappa Nu, Sigma Xi, IEEE.

WING N. TOY, B.S.E.E., 1950, M.S.E.E., 1952, University of Illinois; Ph.D., 1969, University of Pennsylvania; Bell Telephone Laboratories, 1952—. Mr. Toy's earlier work was concerned with the L-3 carrier, data transmission, and special military systems. Since 1956, his major activities have been in the development of the No. 101 ESS and the No. 2 ESS. He is Supervisor of the System Design Group. Member, IEEE, Eta Kappa Nu.

F. S. VIGILANTE, B.S.E.E., 1957, University of California at Berkeley; M.S.E.E., 1959, New York University; Bell Telephone Laboratories, 1957—. Mr. Vigilante was first engaged in system design and programming for the No. 101 ESS. He was appointed Head of the No. 101 ESS Design Department in 1962 and later became Head, No. 2 ESS Design Department. In 1964 Mr. Vigilante received Eta Kappa Nu recognition as an Outstanding Young American Engineer. Since April 1967 he has been Director of the No. 101 and No. 2 ESS Laboratory with responsibility for the development of hardware and software for several applications of electronic switching. Member, Tau Beta Pi, Eta Kappa Nu, IEEE.

DONALD J. WADSWORTH, B.S.E.E., 1960, University of Washington; M.E.E., 1962, New York University; Bell Telephone Laboratories, 1960—. Mr. Wadsworth has worked on the circuit development and physical design of the No. 101 ESS. He supervises a group responsible for the physical design of the No. 2 ESS control complex. Member, Tau Beta Pi, Phi Beta Kappa.

JOHN E. YATES, S.B.E.E., 1960, S.M.E.E., 1962, Massachusetts Institute of Technology; Research Assistant, Massachusetts Institute of Technology, 1960-1962; Bell Telephone Laboratories 1963—. Mr. Yates designed the logic circuitry of the No. 2 ESS maintenance center. He has also been involved in writing the teletypewriter, and administration (recent change) programs. He is Supervisor of the No. 2 ESS Field Support Group. Member, Sigma Xi.

